FTD-HT-23-635-69

# FOREIGN TECHNOLOGY DIVISION


## USE OF BLOOD AGAR WITH SALT FOR SEPARATING TOXIGENIC STAPHYLOCOCCI FROM AIR

by

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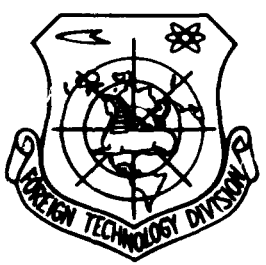




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# EDITED TRANSLATION

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By: L. S. Sarochinskaya

English pages: 2

Source: Laboratornoye Delo (Laboratory Work), No. 3, 1964, p. 167.

Translated by: L. Thompson/TDBRS-3



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# USE OF BLOOD AGAR WITH SALT FOR SEPARATING TOXIGENIC STAPHYLOCOCCI FROM AIR

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In evaluating the microbial seeding of the air in closed areas, it is necessary to study the total number of microorganisms, the number of Streptococci viridans, Streptococci hemolyticus, and toxigenic Staphylococci per $m^3$ of air[1].

For detection of toxigenic Staphylococci in the air of closed areas, it is recommended that a sample of air be taken on lactic-salt agar, and the toxigenic properties of the colony of Staphylococci growing on that medium be checked, studying their hemolytic capacity and a group of other signs of toxigenicity.

In tests of the air of hospital areas, up to 18-26 colonies of Staphylococci on one dish grew on the dishes of the primary seeding. For this reason, 18-26 dishes with blood agar would be necessary for studying the hemolytic capacity of Staphylococci growing on a single primary seeding dish. In practice this is not feasible, and consequently a quantitative estimate of toxigenic Staphylococci in the air by the given method is not possible.

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[1]Procedural instructions on sanitary-bacteriological investigation of external environment objects. Moscow, 1961.

Research is significantly facilitated, its time is reduced, the nutrient medium is conserved, and more reliable results are obtained if 5% blood agar with 5-6.5% salt is used for detecting Staphylococci in the air.

Before the test, 2.5% meat-peptone agar with 5-6.5% salt (pH 7.6-7.8) is prepared, and blood is added the moment the preparation is poured into the dishes. It is better to use rabbit blood, which is more sensitive[1], but good results are also obtained with human placental and citrate blood.

The growth picture of Staphylococci on this medium is so typical that even a researcher with little experience in work, encounters no difficulties in processing the cultures.

Thus, by taking samples of air on blood agar with salt, we have the opportunity to calculate the amount of toxigenic Staphylococci per unit volume of air as early as the end of the second day, and then to continue the furthest study of toxigenicity of the cultures of Staphylococci which are formed.

In using blood agar with salt for separating toxigenic Staphylococci from air, we checked more than a thousand studies of hospital-area air and were satisfied of the advantages of this medium for initial seedings of air as compared to other culture mediums.

Submitted
24 December 1962

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[1]K. I. Turzhetskiy, Doctoral dissertation, Leningrad, 1950.

**DATA HANDLING PAGE**

| 01-ACCESSION NO. | 02-DOCUMENT LOC | 20-TOPIC TAGS |
|---|---|---|
| TT0000222 | | medical R and D, atmospheric contamination, oxygen toxicity, staphylococcus, blood agent |

**09-TITLE** USE OF BLOOD AGAR WITH SALT FOR SEPARATING TOXIGENIC STAPHYLOCOCCI FROM AIR -U-

**97-SUBJECT AREA**

06

| 45-AUTHOR CO-AUTHORS | 10-DATE OF INFO |
|---|---|
| SAROCHINSKAYA, L. S. | -----64 |
| **43-SOURCE** LABORATORNOYE DELO, MOSCOW, MEDITSINA (RUSSIAN) | **88-DOCUMENT NO.** FTD-HT-23-635-69 |
| | **89-PROJECT NO.** 6030204 |

| 63-SECURITY AND DOWNGRADING INFORMATION | 64-CONTROL MARKINGS | 65-HEADER CLASN |
|---|---|---|
| UNCL. 0 | NONE | UNCL |

| 76-REEL/FRAME NO. | 77-SUPERSEDES | 78-CHANGES | 40-GEOGRAPHICAL AREA | NO. OF PAGES |
|---|---|---|---|---|
| 1891 0814 | | | UR | 2 |
| **CONTRACT NO.** | **X REF ACC. NO.** | **PUBLISHING DATE** | **TYPE PRODUCT** | **REVISION FREQ** |
| | 65- | 94- | TRANSLATION | NONE |

**STEP NO.** 02-UR/0000/64/000/003/0167/0167

**ABSTRACT**

(U) The article describes the use of blood agar with 5-6.5 percent salt (pH 7.6-7.8) for calculating the amount of toxigenic staphylococci per unit volume of air in closed areas. The advantages of using this medium include: reduced time, conservation of the medium, and more reliable results as compared to other culture mediums.